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PELAGIC SHRIMPS OF THE ADRIATIC SEA

(*Crustacea Decapoda Natantia*)

Abstract. — The Authors report on the pelagic shrimps (Decapoda Natantia) collected in the Central and Southern Adriatic Sea during the fishery investigations of the Istituto di Ricerche sulla Pesca marittima (C.N.R.). A review of previous investigations and of literature for the ten species up to now recorded in the area is also added. Community of pelagic shrimps in the Adriatic is characterized by the same 3 species (*Gennadas elegans*, *Sergia robusta* and *Sergestes arcticus*) that are the most abundant in the whole Mediterranean, but up to now not all the species known for the Mediterranean have been recorded in the Adriatic.

Riassunto. — *I Decapodi Natanti pelagici dell'Adriatico* (Crustacea Decapoda Natantia).

Nel corso delle campagne di pesca dell'Istituto di Ricerche sulla Pesca marittima (C.N.R.) nell'Adriatico centrale e meridionale, sono state raccolte 9 specie di Decapodi Natanti pelagici. Una specie (*Sergestes sargassi*) era finora nota unicamente per alcune larve raccolte al largo della costa dalmata. Dagli attuali campionamenti e da una rassegna bibliografica delle ricerche condotte in passato risulta che questa importante componente del micronecton pelagico in Adriatico, come nel restante bacino del Mediterraneo, è caratterizzata dall'abbondanza di tre specie (*Gennadas elegans*, *Sergia robusta* e *Sergestes arcticus*), ma in Adriatico presenta un minor numero di specie rispetto al resto del Mediterraneo.

Introduction.

The Adriatic sea is characterized by a wide continental shelf and depths of more than 300 m are present only south of the Gargano Promontory (the maximum depth of the Southern Adriatic depression is about 1220 m). As a consequence of the geomorphology of the basin a deepwater pelagic fauna is only to be found in its southern part.

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The first record of pelagic shrimps in the Adriatic sea can be found in ADENSAMER (1898). He studied material collected by the Austrian R/V « Pola » which, in the years 1890-94, operated in the eastern Mediterranean and to a limited extent in the Adriatic. Later, 1908-10, the Danish R/V « Thor » made extensive collections in the Mediterranean and Eastern Atlantic, but again few sampling stations were located in the Southern Adriatic. STEPHENSEN (1923) reported on the pelagic Decapods, Sergestids excepted, collected by this expedition.

From 1911-1914, following the foundation, by Italy and Austria, of the « Permanent International Commission for the study of the Adriatic », several hydrographic and biological surveys were carried out in the Adriatic, resulting in the accumulation of interesting collections. Decapods collected during the cruises of the Austrian R/V « Najade » were studied mainly by PESTA (1912; 1913; 1913a; 1914). We are indebted to the Austrian Carcinologist not only for his studies on pelagic Decapods, but also for his monograph on Adriatic Decapods Fauna (PESTA, 1918). Larvae of several species of pelagic Decapods were also reported from plankton samples collected off eastern coasts of Adriatic (KURIAN, 1956). In the period 1972-1981 fisheries investigations and faunistic sampling programmes were carried out by the Istituto di Ricerche sulla pesca Marittima with the R/V « S. Lo Bianco » in the Western part of the Mesoadriatic depression (Pomo pit) and the Southern Adriatic (Fig. 1).

Sampling methods.

During fisheries investigations on Southern Adriatic bathial grounds (depths 200-700 m) different bottom trawls were used. This kind of trawls are not suited for sampling pelagic organisms and the few pelagic shrimps obtained were probably caught while hauling the net. In the Pomo pit (Central Adriatic) a pelagic trawl for anchovies was also experimented in 1978; it yielded some Kilos of Euphausids and Gonostomatids, but only a few Decapods. During faunistic researches an Isaac-Kidd Midwater Trawl 10' (IKMT) (without closing device) was used. In 1974 its sampling depth had to be estimated from the amount of cable paid out. In 1981 possibility to use a commercial netz-sonde as a means to know in real time the sampling depth of the IKMT was also tested and compared from data obtained with a time-depth recorder.

Some preliminary information on the fish and Decapods collected with bottom trawls were reported by BOMBACE and FOGLIA (1973) and by FOGLIA (1974). Pelagic fish and Euphausids, mainly collected with

the IKMT in 1974 were later reported by FABIANO and FABIANO (1977) and by GUGLIELMO (1979) respectively.

Present report deals with pelagic Decapods collected in the period 1972-1981.

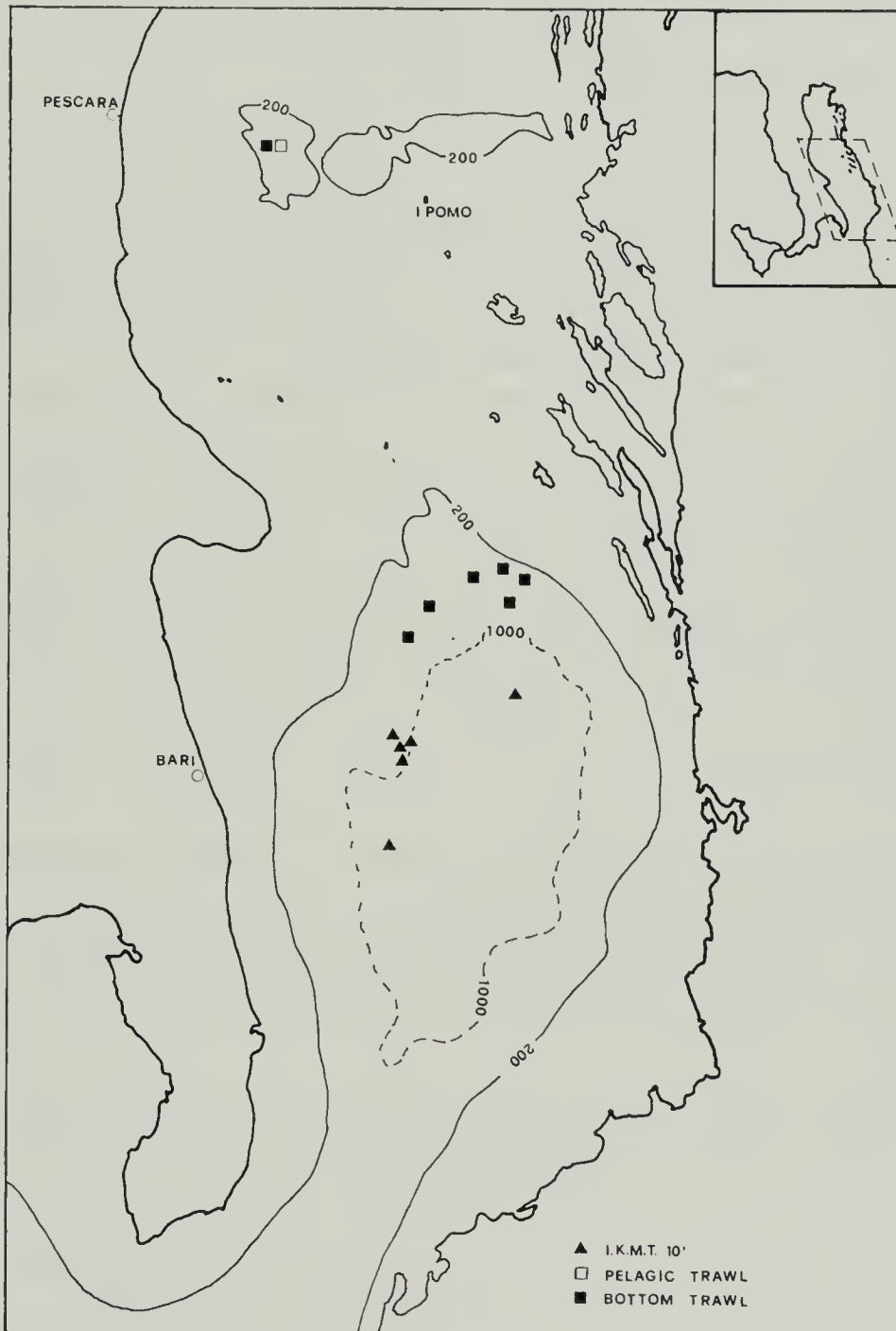


Fig. 1. — Sampling stations in the Central and Southern Adriatic Sea.

Station list.

Only samples which yielded pelagic Decapods are listed. For each station the following information is summarized: geographic position at net lowering, bottom depth, depth range sampled, (for 1981, when a time depth-recorder was used associated to the IKMT, the median sampling depth is also given in brackets), gear used, date, light conditions (night-day) and species collected.

Stn. Western Pomo pit: (42° 50' N, 14° 47' E), 250 m, bottom trawl, 12 May 1970. *Pasiphaea sivado*.

Stn. Western Pomo pit: (42° 50' N, 14° 47' E), 220 m, 0-180 m, pelagic trawl, 4 August 1978. *Sergestes arcticus*, *Pasiphaea sivado*.

Stn. Western Pomo pit: (42° 50' N, 14° 47' E), 220 m, 0-180 m, pelagic trawl, 7 August 1978. *Pasiphaea sivado*.

Stn. 01/21-1972: (41° 52' N, 16° 59' E), 560-470 m, bottom trawl, 3 May 1972, day. *Sergestes corniculum*.

Stn. 02/82-1972: (42° 02' N, 17° 02' E), 460-530 m, bottom trawl, 20 July 1972, day. *Pasiphaea sivado*.

Stn. 06/132-1973: (42° 22' N, 17° 13' E), 870-910 m, bottom trawl, 6 July 1973, day. *Sergestes corniculum*.

Stn. 05/121-1974: (42° 28' N, 17° 11' E), 440-500 m, bottom trawl, 30 July 1974, day. *Pasiphaea sivado*.

Stn. 06/122-1974: (42° 20' N, 17° 01' E), 670-630 m, bottom trawl, 31 July 1974, day. *Sergestes arcticus*, *Sergestes vigilax*.

Stn. 07/123-1974: (42° 26' N, 17° 05' E), 620-600 m, bottom trawl, 31 July 1974, day. *Sergestes arcticus*.

Stn. P 1: (42° 10' N, 17° 35' E), 1170 m, 0-650 m, IKMT 10', 30 July 1974, night. *Gennadas elegans*, *Sergia robusta*, *Sergestes arcticus*, *Acanthephyra pelagica*.

Stn. P 2: (42° 10' N, 17° 35' E), 1170 m, 0-450 m, IKMT 10', 30 July 1974, night. *Gennadas elegans*, *Sergia robusta*, *Sergestes arcticus*, *Pasiphaea multidentata*, *Acanthephyra pelagica*.

Stn. P 3: (42° 10' N, 17° 35' E), 1170 m, 0-250 m, IKMT 10', 31 July 1974, night. *Gennadas elegans*, *Sergia robusta*, *Sergestes arcticus*, *Sergestes sargassi*, *Sergestes corniculum*, *Pasiphaea multidentata*.

Stn. IKMT 4-1981: (41° 41' N, 17° 26' E), 1100 m, 0-610 m (500-600 m), IKMT 10', 6 August 1981, sunset. *Gennadas elegans*, *Sergia robusta*, *Sergestes arcticus*, *Sergestes sargassi*, *Sergestes vigilax*, *Pasiphaea sivado*.

Stn. IKMT 5-1981: (41° 43' N, 17° 23' E), 1100m, 0-390m (350-390m), IKMT 10', 6 August 1981, night. *Gennadas elegans*, *Sergia robusta*, *Sergestes arcticus*, *Pasiphaea multidentata*.

Stn. IKMT 6-1981: (41° 45' N, 17° 25' E), 1100m, 0-180m (150-180m), IKMT 10', 6 August 1981, night. *Gennadas elegans*, *Sergia robusta*, *Sergestes arcticus*, *Sergestes sargassi*.

Stn. IKMT 7-1981: (41° 43' N, 17° 25' E), 1100 m, 0-80 m (80 m), IKMT 10', 7 August 1981, night. *Gennadas elegans*, *Sergia robusta*, *Sergestes arcticus*, *Sergestes sargassi*, *Sergestes corniculum*, *Sergestes vigilax*, *Pasiphaea sivado*.

Stn. IKMT 8-1981: (41° 43' N, 17° 25' E), 1100 m, 0-500 m, IKMT 10', 7 August 1981, night. *Gennadas elegans*, *Sergia robusta*, *Sergestes arcticus*, *Sergestes sargassi*, *Sergestes vigilax*, *Pasiphaea multidentata*.

Stn. IKMT 9-1981: (41° 27' N, 17° 43' E), 1100m, 0-410m (300-400m), IKMT 10', 8 August 1981, sunset. *Gennadas elegans*, *Sergia robusta*, *Sergestes arcticus*, *Sergestes sargassi*, *Pasiphaea multidentata*, *Pasiphaea sivado*, *Acantheephyra pelagica*.

Stn. IKMT 10-1981: (41° 27' N, 17° 43' E), 1100 m, 0-390 m (300-390 m), IKMT 10', 8 August 1981, night. *Gennadas elegans*, *Sergia robusta*, *Sergestes arcticus*.

Stn. IKMT 11-1981: (41° 27' N, 17° 43' E), 1100 m, 0-250 m, IKMT 10', 8 August 1981, night, gear damaged. *Gennadas elegans*, *Sergia robusta*, *Sergestes arcticus*, *Sergestes vigilax*.

Species list.

All adriatic references known to us are listed for each species. The number of specimens and size range observed in each station are reported. Measurements in mm are given as carapace length (c.l.), from the eye socket to dorsal posterior margin of carapace.

To identify the repositories of the collection the following acronyms are used:

A: Istituto di Ricerche sulla Pesca Marittima, Ancona

M: Museo Civico di Storia Naturale, Milano.

Family ARISTEIDAE

Gennadas elegans (S. I. Smith, 1882)

Previous Adriatic records:

Amalopenaeus elegans. - PESTA, 1913, p. 404. - PESTA, 1915, p. 102. - PESTA, 1918, p. 33, figs 1-2. - RIEDL, 1963, p. 269, pl. 90. - RIEDL, 1970, p. 301, pl. 97. - MARCUZZI, 1972, p. 191.

Gennadas elegans. - SZUTS, 1915, p. 433. - STEPHENSEN, 1923, p. 7, chart 1. - KURIAN, 1956, p. 10, figs 1-17 (larvae). - STEVCIC, 1969, p. 125 (listed). - CASANOVA, 1977, p. 396, fig. 87 c.

Material examined:

Stn. P1: 4 ♂ c.l. 4.6-7.0 mm, 5 ♀ c.l. 5.2-8.3 mm (A)
 Stn. P2: 9 ♂ c.l. 4.2-7.3 mm, 5 ♀ c.l. 4.9-8.6 mm (M)
 Stn. P3: 17 ♂ c.l. 3.2-7.2 mm, 12 ♀ c.l. 4.4-7.6 mm (A)
 Stn. IKMT 4-1981: 32 ♂ c.l. 2.8-6.6 mm, 37 ♀ c.l. 3.2-8.2 mm (M)
 Stn. IKMT 5-1981: 35 ♂ c.l. 3.5-6.6 mm, 28 ♀ c.l. 3.7-7.8 mm (A)
 Stn. IKMT 6-1981: 35 ♂ c.l. 3.9-6.8 mm, 40 ♀ c.l. 3.9-8.2 mm (A)
 Stn. IKMT 8-1981: 9 ♂ c.l. 3.7-7.2 mm, 3 ♀ c.l. 5.0-7.0 mm (A)
 Stn. IKMT 9-1981: 43 ♂ c.l. 3.6-6.8 mm, 48 ♀ c.l. 3.8-7.2 mm (M)
 Stn. IKMT 10-1981: 26 ♂ c.l. 3.6-7.1 mm, 29 ♀ c.l. 4.2-7.9 mm (A)
 Stn. IKMT 11-1981: 9 ♂ c.l. 4.2-5.2 mm, 9 ♀ c.l. 3.9-4.8 mm (A)

Size range: males 2.8-7.3 mm, females 3.2-8.6 mm.

Family SERGESTIDAE

Sergia robusta (S. I. Smith, 1882)

Previous Adriatic records:

Sergestes robustus. - PESTA, 1913, p. 64, figs 1-5. - PESTA, 1913a, p. 405, fig. 2. - PESTA, 1914, p. 195, figs 5-8, 15, 21, Tav. f.t. fig. 1. - PESTA, 1915, p. 120. - PESTA, 1918, p. 53, fig. 14 a, b, c. - KURIAN, 1956, p. 23, fig. 39-49 (larvae). - STEVCIC, 1969, p. 126 (listed). - MARCUZZI, 1972, p. 191.

Material examined:

Stn. P1: 10 ♂ c.l. 7.7-17.0 mm, 10 ♀ c.l. 7.3-17.7 mm (A)
 Stn. P2: 23 ♂ c.l. 9.4-11.9 mm, 13 ♀ c.l. 8.5-11.6 mm (M)
 Stn. P3: 6 ♂ c.l. 9.0-10.5 mm, 2 ♀ c.l. 7.3- 7.5 mm (A)
 Stn. IKMT 4-1981: 24 ♂ c.l. 7.8-11.7 mm, 16 ♀ c.l. 7.0-10.5 mm (M)
 Stn. IKMT 5-1981: 6 ♂ c.l. 8.8-10.4 mm, 8 ♀ c.l. 7.6-10.4 mm (A)
 Stn. IKMT 6-1981: 11 ♂ c.l. 7.8-16.2 mm, 11 ♀ c.l. 7.3-11.2 mm (A)
 Stn. IKMT 7-1981: 1 ♂ c.l. 8.3 mm, 1 ♀ c.l. 9.7 mm (A)
 Stn. IKMT 8-1981: 6 ♂ c.l. 8.0-16.2 mm, 9 ♀ c.l. 8.0-10.2 mm (A)
 Stn. IKMT 9-1981: 23 ♂ c.l. 7.5-11.1 mm, 30 ♀ c.l. 7.0-11.2 mm (M)
 Stn. IKMT 10-1981: 13 ♂ c.l. 8.8-10.5 mm, 9 ♀ c.l. 8.5-17.3 mm (A)
 Stn. IKMT 11-1981: 6 ♂ c.l. 8.8-10.4 mm, 6 ♀ c.l. 8.0-16.7 mm (A)

Size range: males 7.5-17.0 mm, females 7.0-17.7 mm.

Sergestes sargassi Ortmann, 1893

Previous Adriatic records:

Sergestes sargassi. - KURIAN, 1956, p. 28, figs 54-56 (larvae). - STEVCIC, 1969, p. 126 (listed, as larvae).

Material examined:

Stn. P3: 1 ♂ c.l. 8.2 mm (A)

Stn. IKMT 4-1981: 2 ♂ c.l. 8.2-8.3 mm, 1 ♀ c.l. 10.0 mm (M)

Stn. IKMT 6-1981: 2 ♀ c.l. 7.5-8.8 mm (A)

Stn. IKMT 7-1981: 1 ♂ c.l. 7.3 mm (A)

Stn. IKMT 8-1981: 1 ♀ c.l. 9.2 mm (A)

Stn. IKMT 9-1981: 3 ♀ c.l. 9.0-9.5 mm (M)

Size range: males 7.3-8.3 mm, females 7.5-9.5 mm.

Sergestes vigilax Stimpson, 1860

Previous Adriatic records:

Sergestes vigilax. - PESTA, 1913a, p. 405, figs 3, 5. - PESTA, 1914, p. 200, figs 9-11, 18, Tav. f.t. fig. 3. - PESTA, 1915, p. 120. - PESTA, 1918, p. 56, figs 16 a, b. - KURIAN, 1956, p. 29, figs 57-64 (larvae). - RIEDL, 1963, p. 269, Taf. 90. - STEVCIC, 1969, p. 126 (listed). - RIEDL, 1970, p. 301, Taf. 97. - MARCUZZI, 1972, p. 191.

Material examined:

Stn. 06/122-1974: 3 ♀ c.l. 9.9-10.7 mm (A)

Stn. IKMT 4-1981: 1 ♀ c.l. 10.2 mm (M)

Stn. IKMT 7-1981: 2 ♂ c.l. 8.7-8.8 mm, 3 ♀ c.l. 9.5-10.5 mm (A)

Stn. IKMT 8-1981: 2 ♂ c.l. 8.2-8.8 mm (M)

Stn. IKMT 11-1981: 1 ♀ c.l. 9.0 mm (A)

Size range: males 8.2-9.0 mm, females 9.5-10.7 mm.

Sergestes corniculum Krøyer, 1855

Previous Adriatic records:

Sergestes rubroguttatus. - PESTA, 1913, p. 66, figs 6-13. - PESTA, 1913a, p. 405, fig. 4 - PESTA, 1914, p. 203, figs 12-14, 17, Tav. f.t. fig. 2. - PESTA, 1915, p. 121. - PESTA, 1918, p. 54, figs 15 a, b, c. - MARCUZZI, 1972, p. 191.

Sergestes corniculum. - KURIAN, 1956, p. 27, figs 50-53 (larvae). - STEVCIC, 1969, p. 126 (listed). - BOMBACE and FROGLIA, 1973, p. 94. - FROGLIA, 1974, p. 78.

Material examined:

Stn. 01/ 21-1972: 2 ♂ c.l. 14.5-15.1 mm (A)

Stn. 06/132-1973: 2 ♀ c.l. 17.2-17.3 mm (A)

Stn. P3: 2 ♂ c.l. 14.2-15.0 mm, 1 ♀ c.l. 17.0 mm (M)

Stn. IKMT 7-1981: 1 ♂ c.l. 15.2 mm, 1 ♀ c.l. 18.0 mm (A)

Size range: males 14.2-15.2 mm, females 17.0-18.0 mm.

Sergestes arcticus Krøyer, 1855

Previous Adriatic records:

Sergestes arcticus. - PESTA, 1913, p. 405, fig. 1. - PESTA, 1914, p. 191, figs 1-4, 16, 19, 20, Tav. f.t. fig. 4. - PESTA, 1915, p. 120. - PESTA, 1918, p. 51, figs 13 a, b, c. - KURIAN, 1956, p. 20, figs 32-38 (larvae). - STEVCIC, 1969, p. 126 (listed). - MARCUZZI, 1972, p. 191. - FROGLIA, 1974, p. 78.

Sergestes arcticum. - BOMBACE and FROGLIA, 1973, p. 94.

Material examined:

Stn. 06/122-1974: 6 ♂ c.l. 6.8-7.8 mm, 7 ♀ c.l. 7.0-8.0 mm (A)

Stn. 07/123-1974: 1 ♂ c.l. 9.2 mm (A)

Stn. P1: 2 ♀ c.l. 6.0- 8.3 mm (A)

Stn. P2: 4 ♀ c.l. 6.1-10.7 mm (M)

Stn. P3: 13 ♂ c.l. 5.1- 9.0 mm, 13 ♀ c.l. 4.9-11.2 mm (A)

Stn. IKMT 4-1981: 8 ♂ c.l. 7.0-9.4 mm, 11 ♀ c.l. 6.5- 9.0 mm (M)

Stn. IKMT 5-1981: 1 ♂ c.l. 6.3 mm, 5 ♀ c.l. 7.0-11.7 mm (A)

Stn. IKMT 6-1981: 5 ♂ c.l. 5.3-7.8 mm, 5 ♀ c.l. 6.1-11.1 mm (A)

Stn. IKMT 7-1981: 8 ♂ c.l. 6.1-8.5 mm, 8 ♀ c.l. 6.6-11.2 mm (A)

Stn. IKMT 8-1981: 5 ♂ c.l. 7.1-7.8 mm, 8 ♀ c.l. 6.1-11.1 mm (A)

Stn. IKMT 9-1981: 19 ♂ c.l. 6.3-8.5 mm, 26 ♀ c.l. 5.4-10.9 mm (M)

Stn. IKMT 10-1981: 9 ♂ c.l. 6.8-7.3 mm, 11 ♀ c.l. 6.1-11.4 mm (A)

Stn. IKMT 11-1981: 5 ♂ c.l. 6.6-7.8 mm, 2 ♀ c.l. 7.0-10.5 mm (A)

Stn. Western Pomo pit, 4 August 1978: 3 ♂ c.l. 6.6-7.7 mm, 7 ♀ c.l. 6.6-9.0 mm (A)

Size range: males 5.1-9.4 mm, females 4.9-11.7 mm.

Family LUCIFERIDAE

Lucifer typus H. Milne Edwards, 1837

Previous Adriatic records:

Lucifer acestra. - PESTA, 1914, p. 23. - PESTA, 1915, p. 121. - PESTA, 1918, p. 58, figs 17, 18 a, b. - RIEDL, 1963, p. 269, Taf. 90. - RIEDL, 1970, p. 301, Taf. 97. - MARCUZZI, 1972, p. 191.

Lucifer typus. - KURIAN, 1956, p. 31. - STEVCIC, 1969, p. 126 (listed).

Material examined: none specimen of *L. typus* present in the collections of the two Institutions originates from the Adriatic sea.

Family PASIPHAEIDAE

Pasiphaea multidentata Esmark, 1866

Previous Adriatic records:

Pasiphaea sivado. - ADENSAMER, 1898, p. 626 [not *P. sivado* (Risso 1816)].*Pasiphaea tarda*. - PESTA, 1914, p. 216, figs 24-25.*Pasiphaea principalis*. - PESTA, 1918, p. 67, figs 21 a, b, c. - MARCUZZI, 1972, p. 192.*Pasiphaë multidentata*. - STEPHENSEN, 1923, p. 29, chart 3.*Pasiphaea multidentata*. - STEVCIC, 1969, p. 126 (listed).

Material examined:

Stn. P2: 1 ♀ c.l. 13.4 mm (M)

Stn. P3: 1 ♀ c.l. 11.7 mm (A)

Stn. IKMT 5-1981: 1 ♀ c.l. 9.5 mm (A)

Stn. IKMT 8-1981: 1 ♀ c.l. 8.2 mm (A)

Stn. IKMT 9-1981: 2 ♀ c.l. 7.1-12.4 mm (M)

Size range: all specimens were tentatively identified as females, because in none could be detected the presence of an appendix masculina on second pleopods, but that can be a consequence of their small size (7.1-13.4 mm).

Pasiphaea sivado (Risso 1816)

Previous Adriatic records:

Pasiphaea sivado. - PESTA, 1913a, p. 406. - PESTA, 1914, p. 214, figs 22-23. - PESTA, 1918, p. 64, figs 19 a, b, c - 20 a, b. - RIEDL, 1963, p. 270, Taf. 91. - STEVCIC, 1969, p. 126 (listed). - RIEDL, 1970, p. 303, Taf. 98. - MARCUZZI, 1972, p. 192. - BOMBACE and FROGLIA, 1973, p. 94. - FROGLIA, 1974, p. 78.

Pasiphaë sivado. - STEPHENSEN, 1923, p. 31, chart 4, figs 11-14.

Material examined:

Stn. Western Pomo pit, 12 May 1970: 1 ♂ c.l. 19.6 mm (A)

Stn. Western Pomo pit, 4 August 1978: 2 ♂ c.l. 19.6-20.7 mm, 1 ♀ ovigerous c.l. 18.4 mm (A)

Stn. Western Pomo pit, 7 August 1978: 4 ♀ c.l. 14.3-19.0 mm (A)

Stn. 02/82-1972: 3 ♂ c.l. 12.4-12.7 mm, 4 ♀ c.l. 12.1-18.5 mm (1 ♀ ovigerous c.l. 17.5 mm) (A)

Stn. 05/121-1974: 1 ♀ c.l. 11.4 mm (A), 4 ♀ c.l. 11.1-18.8 mm (2 ♀ ovigerous c.l. 18.2-18.8 mm) (M)

Stn. IKMT 4-1981: 1 ♀ c.l. 10.5 mm (M)

Stn. IKMT 7-1981: 1 ♂ c.l. 10.0 mm (A)

Stn. IKMT 9-1981: 3 ♀ c.l. 7.8-10.5 mm (M)

Size range: males 10.0-20.7 mm, females 7.8-19.0 (smallest ovigerous 17.5 mm; eggs size 1.2×1.6 mm).

Family OPLOPHORIDAE

Acantheephyra pelagica (Risso, 1816)

Previous Adriatic records:

Acantheephyra purpurea. - PESTA, 1912, p. 995, fig. 1. - PESTA, 1913, p. 70, fig. 14. - PESTA, 1913a, p. 406. - PESTA, 1918, p. 70, fig. 22. - KURIAN, 1956, p. 32, figs 65-68 (larvae). - RIEDL, 1963, p. 270, Taf. 91. - RIEDL, 1970, p. 303, Taf. 98. - MARCUZZI, 1972, p. 192.

Acantheephyra purpurea var. *multispina*. - SZUTS, 1915, p. 433.

Acantheephyra pelagica. - STEVCIC, 1969, p. 126 (listed).

Material examined:

Stn. P1: 1 ♂ c.l. 12.2 mm, 2 ♀ c.l. 13.8-15.1 mm (A)

Stn. P2: 1 ♀ c.l. 11.6 mm (M)

Stn. IKMT 9-1981: 1 ♀ c.l. 8.2 mm (M)

Size range: male 12.2 mm, females 8.2-15.1 mm.

Remarks.

The Mediterranean sea, as a result of its geomorphology and past history, has a deep-water pelagic community qualitatively reduced compared with the Atlantic ocean.

The Gibraltar soil, which rises up to 320 m from the surface, and the currents system (outflow of Mediterranean deep-water and inflow of Atlantic surface-water) inhibits migration of deep-water pelagic shrimps from the Atlantic to the Mediterranean.

Over 30 species of pelagic shrimps are reported by ABBES & CASANOVA (1973) for the Eastern Atlantic, off Gibraltar, but only 16 have been observed in the Mediterranean.

From the analysis of several Mediterranean collections CASANOVA (1977) suggested a change in the relative abundance of the species present in the Western and Eastern Mediterranean.

If *Gennadas valens* and *Sergestes atlanticus*, [recorded once in the Alboran sea (SUND, 1920)], *Sergestes japonicus*, [recorded once in the

Alboran sea (SUND, 1920) and once in the Gulf of Marseille (FRANQUEVILLE, 1971)] and the rare *Funchalia woodwardi* are not considered, all the other 12 species of pelagic shrimps known in the Western Mediterranean were recorded also in the Eastern basin.

Of these species only ten are presently known in the Southern Adriatic sea.

Gennadas elegans, *Sergia robusta* and *Sergestes arcticus* proved to be by far the most common species in the samples, they are classified as ubiquitous in the Mediterranean by CASANOVA (1977).

The presence of *Sergestes sargassi*, reported for the first time by KURIAN (1956) on the basis of some larvae collected in the eastern central Adriatic, is now confirmed on the basis of its capture in six stations in the Southern Adriatic (total 10 specimens).

Pasiphaea sivado, especially the biggest specimens, was more frequently caught with bottom trawls than with IKMT; this species can be found in subsurface layers by night, but at daytime it probably stays very close to the sea bottom.

In the Central Adriatic depression (Pomo pit), characterized by the presence of cold water masses (bottom temperatures min. 9.6 °C, max. 12.1 °C) and moderate depths (max. 260 m), only *P. sivado* and *S. arcticus*, both epipelagic, boreal elements, were recorded up to now.

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